**The students’ observation of medical professionalism in clinical settings: An Iranian experience**

**Abstract:**

Professionalism atmosphere in clinical environment is a necessary step in education of professionalism in hospitals. In this study, we aimed to evaluate the medical students’ observations of professionalism in peer students, residents, and faculty in the teaching hospitals of Tehran University of Medical Sciences (TUMS) in Tehran capital of Iran.

A sample of165 students filled out the Persian translation of UMKC-SOM (Climate of Professionalism Survey) questionnaire regarding professional behaviors via Google form platform. Demographic variables including gender, university entrance year, and history of participation in medical ethics’ education programs were also recorded. Statistical analysis was conducted with SPSS 18 software.

Total score for professionalism was 53.9, 42.09 and 50.76 out of 100 in faculty, residents and students, respectively (p-value<0.01). Participation in medical ethics course and their university entrance year did not have any impact on observations (p-values> 0.05).

Students observers their peers and faculty more professional than residents. The courses and conferences of medical ethics did not have any impact on the perception of professional behavior in the students of our study. It seems that teaching professionalism to residents who have an important role in shaping students’ behaviors is necessary.

**Key words**: Iran, Medical Student, Professionalism, Resident, UMKC-SOM questionnaire

**Introduction:**

Medical professionalism is considered as professional commitments in “social contract” between the society and medical service providers. (1) The most important base for this contract is the public trust in medical service providers including physicians. This trust is established on the truthfulness and integrity of physicians and the profession they belong to. (2) However, studies have reported difficulties and some deterioration in professionalism around the world with no more standards of professional behaviors in routine practices. (3-8) As a reaction to fulfill these deficits, medical schools designed courses, conferences, various programs, and guidelines to promote and instruct the professionalism in medical learners. (9-16) Though, the professional behaviors will be meaningful after clear definition of professionalism as the keystone to providing professionalism to the trainees. (1,17) On the other hand, unprofessional behaviors in the medical schools could predict unprofessional behaviors in further medical practices. (11)

Though, the most prominent features of professionalism considered as accountability, trustworthiness, honesty, competence, respect, and integrity in many medical institutions along with the social contract society. (18-20) Evaluation of professionalism is essential in the teaching and evaluation of medical professionalism. (20) Different methods have been developed to assess professionalism such as; observing behavior, knowledge and attitude, feedback, portfolio, appraisal of critical incidents, peer review, and so on. (21) In addition, special scales also have been used to assess professionalism like the “*Nijmegen Professional Scale”* or the “*Professional Mini Evaluation”*. (22, 23) On the other hand, not only the framework of teaching, education, evaluation are important issues in professional behavior, but also the environment and organization are essential is establish and maintain professionalism in practice. (24)



So, evaluating the “*climate of professionalism*” is important to figure out the status of professionalism in the educational environments. “Climate of professionalism” instrument (*UMKC-SOM questionnaire*) was first introduced by Quaintance et al. (25) this instrument is designed to assess the perspectives of professionalism in medical learners. In our study we chose UMKC-SOM because by this instrument, the responders were asked about the degree of adherence to professionalism by all three levels (faculty, residents, and students). The scale items are obtained from the professionalism definition published by “American board of internal medicine (ABIM)”. (26) The designers of this scale reported interesting findings on the differences of professionalism perception among different groups of medical learners. For instance, the rates of preclinical students on faculty’s professionalism were higher than clinical students. These findings necessitate the evaluation of “climate of professionalism” in learning environments to fully understand the present status of professionalism, perspectives, and needs of professionalism education and finally to set the goals for professionalism promotion in educational environments. (25) Previous studies on climate of professionalism in Iran are scarce and almost all of them have used ABIM scale as the instrument for the evaluation of climate of professionalism. To cover the professionalism challenges of clinical settings in Tehran University of Medical Sciences, it is essential to figure out the most problematic areas of professional behaviors. UMKC-SOM is a novel instrument in Iran and its findings can reveal new insights regarding ethical behaviors in our study.

So, in this study, we aimed to evaluate the medical students’ observations of professionalism in peer students, residents, and faculty in the educational hospitals of Tehran University of Medical Sciences.

**Materials and Methods:**

It was a cross sectional study which distributed between medical students of teaching hospitals of TUMS (3rd and 4th year of school) from May to August 2017. This study was approved by the TUMS’ research ethics committee (IR.TUMS.VCR.REC.1396.2052).

Questionnaire was sent online through Google form platform for 250 student and 165 (% 82.5 response rate) questionnaires were filled out and returned. We found out student’s E-mail address with their permission from their representative at university. There was no obligation regarding filling out the form for participants.

UMKC-SOM climate of professionalism questionnaire introduced by Quaintance (25) was used in our study. First, written permission was obtained from the owners of the questionnaire’s rights. The questionnaire was translated to Persian. Then, it was back translated to English by an English expert who had not seen the original version of the questionnaire at last it was again translated to Persian. In the next step, to evaluate the validity of the questionnaire, several experts on professionalism assessed the questionnaire and confirmed its content validity. Then to make the questionnaire compatible with local needs, some modifications was performed, and the final version was prepared.

All participants filled the approved Persian translation of *UMKC-SOM questionnaire* which consisted of 12 items regarding professional and unprofessional behaviors observed in peer students, residents, and faculty members. The frequencies of these behaviors were categorized as rarely, sometimes, often, and mostly. For scoring +1, +2, +3 and +4 scores was considered for rarely, sometimes, often, and mostly in the professional behaviors, respectively. Unprofessional behaviors were scored reversely, Total score was then calculated, to have a better viewpoint of scores we converted the scores (12-48) to (0-100) scaling. Demographic variables including gender, history of participation in previous ethics courses or conferences, and university entrance year were also recorded.

Data analysis was performed with SPSS V.18 software. Descriptive analysis was reported as frequency, percentage, mean, and standard deviation. ANOVA was used for comparison of groups and post-hoc tests were used for multiple comparisons. Kruskal-Wallis and Mann-Whitney tests were used for the comparison of question grades between three groups and pairwise comparisons, respectively. P-values under 0.05 were considered as statistically significant.

**Results:**

Overall, out of 250 students, 165 (% 82.5) students participated in the study and filled the 12-item questionnaire regarding their perception of professional behavior of students, resident, and faculty members in the clinical environment (66% response rate). Among them 106 responders (64.24%) were male while 59 participants (35.75%) were female. The details of answers to each item of the questionnaire are shown in table 1. Final scores were calculated as explained previously and it was revealed that the total score for students, residents and faculty was 53.91 ± 13.37, 42.09 ± 12.64 and 50.76 ± 11.99, respectively (Figure 1). ANOVA analysis showed a significant difference between groups (p-value=0.000). Results of further analysis with post-hoc tests for multiple comparisons between groups are shown in table 2. Item by item analysis of questionnaire with Kruskal-Wallis test was performed. The difference between groups was significant in all items (p-values< 0.05) except item 9 (p-value=0.060). Results of Mann-Whitney test between groups are shown in table 3. We evaluated the effect of gender on total scores perceived by students in three groups which is shown in table 4. Among the responders 117 individual (70.90%) had participated in ethics conferences while 48 students (29.09%) reported no history of participation in these sessions. The details of the role of ethics education on total scores are presented on table 5. Assessment of the impact of the university entrance year on total scores yielded no significant association with total scores (p-values of 0.080, 0.913 and 0.084 for faculty, residents and students, respectively).

**Discussion:**

Nearly all medical schools around the world offer medical ethics courses for medical students but it seems that these programs are not very efficient. However, it might be assigned to this fact that they are too short or too brief. (27) Hidden curriculum is considered as the not-so-obvious messages that are conveyed via behaviors seen at the learning environment mostly from the physicians in the higher educational ranks. This makes routine daily exposure to ethical attitudes and behaviors of other students, residents, and faculty members an important route of education with a great impact on the ethical basis of medical care in learners.

Professionalism is fundamental to shaping and behaving professional in medical practice, but the organization should be also sensitive to this concept. (28) Professionalism committed as fundamental part of medicine to become a physician, since 1980. (29) In modern medicine the way to develop and establish professionalism in medical students and clinical practitioners is essential and should be clear. (30) But as hidden curricula in medical schools, it should be monitored and evaluated. (31,32)

According to the recommendations from the Ottawa 2010 Conference various elements of professionalism are too much and for assessment should be considered at various parts as “individual, interpersonal, and societal/institutional”. (24) However, the organization climate is important issue in developing professionalism. (24, 30)

What the medical students learn in clinical setting is however broader and deeper than what is taught in classes or written in books. In fact, observing clinical behaviors shapes the medical students’ thoughts and acts.

Though, what the medical students are teaching, and learning is way broader than what is taught in the classes and written in books, this is behaviors that shape the medical students’ thoughts and acts. Professionalism is a behavior that might be better learnt through ‘learning by doing’ under decisive observation. (29-31) Assessing the medical students’ behaviors is crucial in medical environments and an important issue in social contract with the society. (32,33)

Quaintance and his colleagues reported that there is signiﬁcant difference in the perceived professional behavior of the clinical student compared to preclinical student. (25) Thus, based on this study clinical exposure continues to shape ethical judgement and the role of hidden curriculum should not be underestimated in behaving professionally. Spiwak and colleagues evaluated the professional behavior of different training level and reported that observation of adherence to professionalism principles varies regarding the educational level and depends on the level of contact with instructors and teachers. (34) In our study, the same findings were instituted. The perception of behaving professionally were similar between students and faculty but was significantly lower in the residents. An underlying cause might be this fact that people of a certain group usually consider themselves more positive because their identity in the society is recognized with their group so reporting more positive features and behaviors in their own group is not irrational; as we see in our study, students regard themselves more professional than the residents. It is interesting that another study has reported that both students and residents consider their peer groups as more professional than other group simultaneously. (27) Another explanation is that residents usually spend more time in the hospital than students and faculty members and they are exposed to more workload and stress and so their threshold for unprofessional behaviors lowers. However, Gillespie et al in a study on *residents’ perceptions of their own professionalism, emphasized* the influence of learning environment on developing professionalism in residents. (35)

It should be noted that unprofessional acts outweigh more professional acts and play more important roles in the ethical perception of behaviors. Observing an unethical behavior can diminish the positive effect of ethical behaviors in students’ perception of professionalism of an individual. (33)

The three worst items reflected in the calculated scores were “complaining about professional obligations”, “Showing disrespect to patients, students, faculty, staff or other healthcare personnel” and “enjoying serving others”. It is suggested that modifications in formal teaching of professionalism and behaviors of role models with the focus on these items should be brought about. Although it should be considered that according to this study, the changes must be directed to the alteration of residents’ attitudes and behaviors. The sensitivity of the environment to professional act and behavior is crucial in the health care settings. (7)

The last finding in our study was the point that gender had a significant impact on the perception of students from professional attitude. Female students’ rates for faculty were higher than the rates from male students regarding faculty. The explanation for these findings that female students view faculty more professional than male students should be investigated in further studies. Although the recommendations from the Ottawa 2010 Conference highlighted the importance of various issues as culture, gender, hierarchy, background, generation, etc. in evaluation of professionalism. (24) Hoonpongsimanont et al argued the influences of generation and their values that should be considered in assessment of professionalism. (36) However, the modern medical curricula concrete professionalism integrated in medical practices. (30) In addition, in becoming a physician it is important to get medical professional identity. (31,37) Although, professionalism is fundamental in medical education and practice, but it is multidimensional in assessment. (21)

The main limitation of our study was absence of perceptions and observations of other groups (residents and faculty) to be compared with students’ views. Future studies can be more informative by including the views of these two groups. Our study was performed in only one university, further studies in multiple universities can lead to more comprehensive results.

**Conclusion:** According to this study **s**tudents’ observers their peers and faculty were more professional than residents. The courses and conferences of medical ethics did not have any impact on the perception of professional behavior in the medical students. It seems that teaching professionalism to the residents who have an important role in shaping students’ behaviors is necessary. However, the changes must be directed to the alteration of residents’ attitudes and behaviors. Finally, the environment of clinical practice to behave professional is also an important issue.

**Conflict of interest**: There are no conflicts of interest.

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**Tables and Figures:**

**Table 1**. The details of students’ answers to 12 items on the questionnaire regarding their perception of professionalism among three

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item** | **Rarely** | **Sometimes** | **Often** | **Mostly** | **p-value\*** |
| 1. ***Show disrespect to patients, students, faculty, staff or other healthcare personnel*** | | | | | |
| **Medical students** | 86 (52.1%) | 71 (43.0%) | 8 (4.8%) | 0 (0.0%) | 0.000 |
| **Residents** | 19 (11.5%) | 100 (60.6%) | 43 (26.1%) | 3 (1.8%) |
| **Faculty** | 65 (39.4%) | 87 (52.7%) | 11 (6.7%) | 2 (1.2%) |
| 1. ***advocate for the well-being of patients, students, colleagues, the community and/or the medical profession*** | | | | | |
| **Medical students** | 23 (13.9%) | 53 (32.1%) | 73 (44.2%) | 16 (9.7%) | 0.007 |
| **Residents** | 20 (12.1%) | 63 (38.2%) | 71 (43.0%) | 11 (6.7%) |
| **Faculty** | 24 (14.5%) | 31 (18.8%) | 81 (49.1%) | 29 (17.6%) |
| 1. ***make selves look good at the expense of others*** | | | | | |
| **Medical students** | 54 (32.7%) | 80 (48.5%) | 26 (15.8%) | 5 (3.0%) | 0.000 |
| **Residents** | 33 (20.0%) | 76 (46.1%) | 46 (27.9%) | 10 (6.1%) |
| **Faculty** | 69 (41.8%) | 75 (45.5%) | 17 (10.3%) | 4 (2.4%) |
| 1. ***exceed expectations in patient care, class, conferences and/or rounds*** | | | | | |
| **Medical students** | 87 (52.7%) | 59 (35.8%) | 18 (10.9%) | 1 (0.6%) | 0.046 |
| **Residents** | 96 (58.2%) | 58 (35.2%) | 10 (6.1%) | 1 (0.6%) |
| **Faculty** | 79 (47.9%) | 57 (34.5%) | 27 (16.4%) | 2 (1.2%) |
| 1. ***finish their work and help others finish theirs*** | | | | | |
| **Medical students** | 51 (30.9%) | 69 (41.8%) | 40 (24.2%) | 5 (3.0%) | 0.000 |
| **Residents** | 65 (39.4%) | 59 (35.8%) | 35 (21.2%) | 6 (3.6%) |
| **Faculty** | 97 (58.8%) | 50 (30.3%) | 15 (9.1%) | 3 (1.8%) |
| 1. ***complain about professional obligations*** | | | | | |
| **Medical students** | 19 (11.5%) | 61 (37.0%) | 65 (39.4%) | 20 (12.1%) | 0.000 |
| **Residents** | 7 (4.2%) | 29 (17.6%) | 79 (47.9%) | 49 (29.7%) |
| **Faculty** | 57 (34.5%) | 83 (50.3%) | 21 (12.7%) | 4 (2.4%) |
| 1. ***lie to patients, professors, colleagues /peers or in the medical record*** | | | | | |
| **Medical students** | 74 (44.8%) | 69 (41.8%) | 18 (10.9%) | 4 (2.4%) | <0.001 |
| **Residents** | 58 (35.2%) | 78 (47.3%) | 25 (15.2%) | 4 (2.4%) |
| **Faculty** | 114 (69.1%) | 41 (24.8%) | 8 (4.8%) | 2 (1.2%) |
| 1. ***show respect and compassion toward patients, students, faculty, staff or other healthcare personnel*** | | | | | |
| **Medical students** | 5 (3.0%) | 56 (33.9%) | 86 (52.1%) | 18 (10.9%) | <0.001 |
| **Residents** | 22 (13.3%) | 83 (50.3%) | 57 (34.5%) | 3 (1.8%) |
| **Faculty** | 9 (5.5%) | 67 (40.6%) | 80 (48.5%) | 9 (5.5%) |
| 1. ***accurately and spontaneously report their own mistakes or uncertainties*** | | | | | |
| **Medical students** | 105 (63.6%) | 45 (27.3%) | 14 (8.5%) | 1 (0.6%) | 0.060 |
| **Residents** | 125 (75.8%) | 29 (17.6%) | 9 (5.5%) | 2 (1.2%) |
| **Faculty** | 119 (72.1%) | 33 (20.0%) | 10 (6.1%) | 3 (1.8%) |
| 1. ***ignore the unprofessional behavior of others*** | | | | | |
| **Medical students** | 35 (21.2%) | 71 (43.0%) | 45 (27.3%) | 14 (8.5%) | 0.007 |
| **Residents** | 28 (17.0%) | 70 (42.4%) | 56 (33.9%) | 11 (6.7%) |
| **Faculty** | 35 (21.2%) | 94 (57.0%) | 32 (19.4%) | 4 (2.4%) |
| 1. ***do just enough to get by in patient care, class, conferences and/or rounds*** | | | | | |
| **Medical students** | 12 (7.3%) | 49 (29.7%) | 82 (49.7%) | 22 (13.3%) | <0.001 |
| **Residents** | 9 (5.5%) | 42 (25.5%) | 88 (53.3%) | 26 (15.8%) |
| **Faculty** | 32 (19.4%) | 55 (33.3%) | 58 (35.2%) | 20 (12.1%) |
| 1. ***enjoy serving others*** | | | | | |
| **Medical students** | 16 (9.7%) | 58 (35.2%) | 69 (41.8%) | 22 (13.3% | <0.001 |
| **Residents** | 37 (22.4%) | 77 (46.7%) | 42 (25.5%) | 9 (5.5%) |
| **Faculty** | 14 (8.5%) | 52 (31.5%) | 82 (49.7%) | 17 (10.3%) |

\*Significant p-value <0.05

**Table 2**. Multiple comparisons between groups on total score

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1st group** | **2nd group** | **Mean difference** | **Standard Error** | **p-value\*** |
| **Faculty** | Resident | 11.81 | 1.398 | <0.001 |
| Student | 3.14 | 1.396 | 0.063 |
| **Resident** | Faculty | -11.81 | 1.398 | <0.001 |
| Student | -8.66 | 1.398 | <0.001 |
| **Student** | Faculty | -3.14 | 1.396 | 0.063 |
| Resident | 8.66 | 1.398 | <0.001 |

\*Significant p-value <0.05

**Table 3**. Item by item comparison between study groups.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Group\*** | **Mean rank** | **p-value\*\*** | **Group** | **Mean rank** | **p-value** | **Group** | **Mean rank** | **p-value** |
| **Item 1** | 1 | 196.53 | 0.000 | 1 | 154.26 | 0.016 | 2 | 124.45 | <0.001 |
| 2 | 134.47 | 3 | 176.74 | 3 | 206.55 |
| **Item 2** | 1 | 180.34 | 0.003 | 1 | 176.79 | 0.022 | 2 | 162.17 | 0.497 |
| 2 | 150.66 | 3 | 154.21 | 3 | 168.83 |
| **Item 3** | 1 | 191.35 | 0.000 | 1 | 174.90 | 0.051 | 2 | 148.47 | <0.001 |
| 2 | 139.65 | 3 | 156.10 | 3 | 182.53 |
| **Item 4** | 1 | 177.18 | 0.013 | 1 | 171.43 | 0.214 | 2 | 159.65 | 0.209 |
| 2 | 153.82 | 3 | 159.57 | 3 | 171.35 |
| **Item 5** | 1 | 146.55 | 0.000 | 1 | 139.58 | 0.000 | 2 | 159.22 | 0.204 |
| 2 | 184.45 | 3 | 191.42 | 3 | 171.78 |
| **Item 6** | 1 | 221.98 | 0.000 | 1 | 201.74 | 0.000 | 2 | 137.84 | <0.001 |
| 2 | 107.67 | 3 | 129.26 | 3 | 192.00 |
| **Item 7** | 1 | 194.68 | 0.000 | 1 | 186.13 | 0.000 | 2 | 156.72 | 0.069 |
| 2 | 136.32 | 3 | 144.87 | 3 | 174.28 |
| **Item 8** | 1 | 183.03 | 0.000 | 1 | 155.47 | 0.035 | 2 | 138.70 | <0.001 |
| 2 | 147.97 | 3 | 175.53 | 3 | 192.30 |
| **Item 9** | 1 | 180.84 | 0.002 | 1 | 175.37 | 0.042 | 2 | 160.98 | 0.360 |
| 2 | 150.16 | 3 | 155.63 | 3 | 170.02 |
| **Item 10** | 1 | 185.31 | 0.000 | 1 | 180.15 | 0.003 | 2 | 159.72 | 0.229 |
| 2 | 145.69 | 3 | 150.85 | 3 | 171.28 |
| **Item 11** | 1 | 191.99 | 0.000 | 1 | 167.65 | 0.660 | 2 | 141.81 | <0.001 |
| 2 | 139.01 | 3 | 163.35 | 3 | 189.19 |

\*Group 1: faculty, Group 2: residents, Group 3: students.

\*\*Significant p-value <0.05

**Table 4.** The effect of gender on total scores

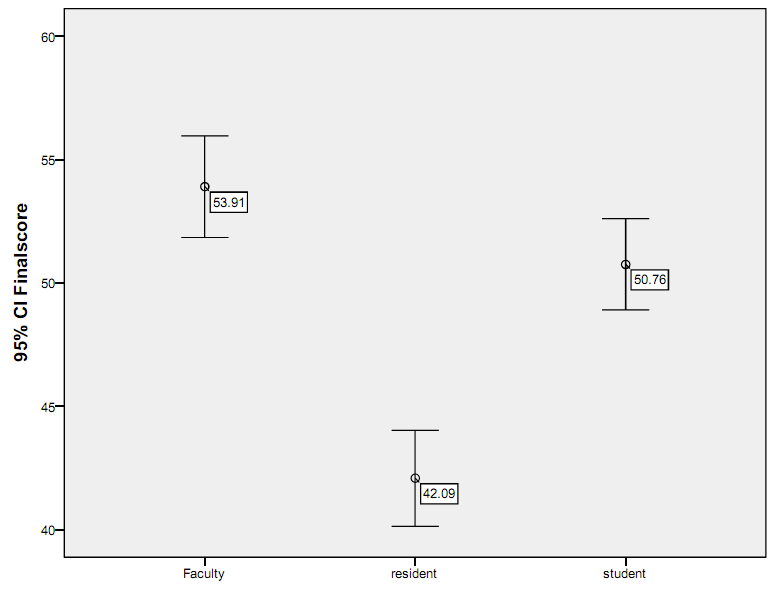
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Gender** | **Mean** | **SD** | **p-value\*** |
| **Faculty** | Female | 56.44 | 12.98 | 0.001 |
| Male | 49.34 | 12.92 |
| **Resident** | Female | 42.16 | 12.64 | 0.915 |
| Male | 41.94 | 12.73 |
| **Student** | Female | 50.41 | 12.04 | 0.629 |
| Male | 51.36 | 11.97 |

\*Significant p-value <0.05

**Table 5.** The effect of history of participation in ethics conferences and courses on total scores

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **History of participation in ethics conferences** | **Mean** | **SD** | **p-value** |
| **Faculty** | Yes | 53.08 | 13.64 | 0.220 |
| No | 55.90 | 12.58 |
| **Resident** | Yes | 41.19 | 12.42 | 0.152 |
| No | 44.32 | 13.01 |
| **Student** | Yes | 49.33 | 12.06 | 0.017 |
| No | 54.22 | 11.19 |

\*Significant p-value <0.05



**Figure 1**. Total scores of study groups